



VA ResearchCurrents

Update from the Office of Research and Development...

ORD launching campaign to reinforce security awareness

By James F. Burris, MD, *Acting Chief R&D Officer*

As many of you may know, a Congressional staff member recently gained unauthorized access to a biomedical lab at a VA medical center. This, along with two similar incidents in the past, has prompted concern in Congress about the level of security at VA research facilities. Many of our scientists work with viruses, toxins or other hazardous materials that could potentially be used in a bioterrorist attack. Congress wants to be sure we are doing everything possible to prevent these materials or related information from falling into the wrong hands.

In September, I informed members of the House Veterans Affairs Subcommittee on Oversight and Investigations

about our ongoing efforts and new initiatives to address this issue. In the past year, we have:

- Conducted a nationwide survey of our labs to determine security needs.
- Provided funding to more than 30 sites for physical improvements to enhance security, such as cardkey systems.
- Issued a new policy directive to provide guidelines on controlling and monitoring access to labs. (See www.va.gov/resdev/directive/HAZMAT-Directive-revised1.doc.)

The above-mentioned directive is of critical importance. Please read it thoroughly. It clearly delineates the

responsibilities of all levels of VA research staff, from the chief R&D officer to local research administrators and individual investigators.

Beyond the many specific requirements covered in the directive, each of us must pay increased attention to security. As I pointed out in a recent hotline call, we can put in place all the doors and locks we want—but if we fail to adhere strictly to guidelines, these physical features are useless.

In this vein, here are two simple, common-sense measures that each of us must implement:

- **Question unfamiliar faces.** If you see someone you do not know in your

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Lack of skin-based 'antibiotics' may explain dermatitis infections

In a study published in the Oct. 10 *New England Journal of Medicine*, a team including VA scientists showed that people with atopic dermatitis—the most common form of eczema—fail to produce germ-killing peptides that fight infections in other inflammatory skin diseases, such as psoriasis. The finding may lead to a new type of antimicrobial cream—based on the body's own chemicals—that stems infections and heals skin for patients with this distressing chronic illness.

"This may explain why people with atopic dermatitis get infections," said co-investigator Richard Gallo, MD PhD, a dermatologist with the VA San Diego Healthcare System and the University of California, San Diego (UCSD).

Gallo, who in 1994 was the first to discover antimicrobial peptides in mammalian skin, worked on this study with investigators at the Denver-based National Jewish Medical and Research Center (NJMRC) and other sites.

When the skin is penetrated by pathogens, an army of white blood cells, aided by various biochemicals, attacks the invader to prevent infection. However, this immune response does not appear to happen readily in atopic dermatitis patients, who often suffer recurring skin infections. Atopic dermatitis is an inherited disease usually accompanied by asthma and allergies. It is marked by red, itchy, swollen skin. The disease accounts for about 15

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work area, check that he or she is accompanied by a VA employee. Ask to see the person's ID badge or security pass. Verify that the visitor has signed in. Report strangers to the research office.

• **Keep doors locked.** When you leave your lab for lunch, or at the end of the day, make sure the area is secure. If you exit through a door that automatically locks behind you, make sure no one is waiting to slip through the closing door as you leave.

In the next few weeks, you will be receiving the first in a series of posters designed to boost security awareness in our labs. Please display them prominently. This is only part of our campaign to proactively address security issues. You will be seeing presentations on security at national VA research meetings, receiving e-mails and faxes about new initiatives, and hearing further discussion about security on our bimonthly hotline calls.

At this critical time in our nation's history, VA research has a vital role to play. Congress and the American people are looking to us not only for cutting-edge medical advances, but uncompromising, unparalleled security in every one of our research facilities. Working together, we will meet and exceed their expectations. ■

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Recent publications

Below is a representative sampling of recent publications by VA investigators. Due to space constraints, only VA authors and affiliations are noted.

"Cash and Compassion: Profit Status and the Delivery of Hospice Services." Karl Lorenz, MD, MSHS; Kenneth Rosenfeld, MD; Steven Asch, MD, MPH. **Greater Los Angeles. Journal of Palliative Medicine**, Aug. 2002.

"Daily Dosing Versus Alternate-Day Dosing of Simvastatin in Patients with Hypercholesterolemia." Heather R. Copher, PharmD; Robert D. Stewart, PharmD. **Bay Pines (Fla.). Pharmacotherapy**, Sept. 2002.

"Diagnostic Cost Groups and Concurrent Utilization Among Patients with Substance Abuse Disorders." Amy K. Rosen, PhD; Susan A. Loveland, MAT; Jennifer J. Anderson, PhD; Cheryl S. Hankin, PhD; James N. Breckenridge, PhD; Dan R. Berlowitz, MD, MPH. **Bedford (Mass.) Health Services Research**, Aug. 2002.

"Effects of Forward and Reverse Selection for Ethanol-Induced Locomotor Response on Other Measures of Ethanol Sensitivity." Tamara J. Phillips, PhD. **Portland. Alcoholism: Clinical and Experimental Research**, Sept. 2002.

"The Final Month of Life in Patients with ALS." Linda Ganzini, MD. **Portland. Neurology**, Aug. 13, 2002.

"Managing Overweight and Obesity in Adults." Polly Hitchcock Noel, PhD; Jacqueline A. Pugh, MD. **San Antonio. British Medical Journal**, Oct. 5, 2002.

"Mazindol Analogues as Potential Inhibitors of the Cocaine Binding Site at the Dopamine Transporter." Aaron Janowsky, PhD. **Portland. Journal of Medical Chemistry**, Sept. 12, 2002.

"Methylation State of the Prostate-Specific Membrane Antigen CpG Island in Prostate Cancer Cell Lines." Kenneth R. Noss, PhD; Rakesh Singal, MD; Sidney R. Grimes Jr., PhD. **Shreveport. Anticancer Research**, May-June 2002.

"The Minnesota Living with Heart Failure Questionnaire: Sensitivity to Differences and Responsiveness to Intervention Intensity in a Clinical Population." Martha Shively, PhD, RN. **San Diego. Nursing Research**, July-Aug. 2002.

"Must Patients with Advanced Cancer Choose Between a Phase I Trial and Hospice? David J. Casarett, MD. **Philadelphia. Cancer**, Oct. 1, 2002.

"Persisting Consequences of Stroke Measured by the Stroke Impact Scale." Pamela W. Duncan, PhD. **Kansas City. Stroke**, July 2002.

"Potential Regulatory Function of Human Dendritic Cells Expressing Indoleamine 2,3-Dioxygenase." Jeffrey R. Lee, MD. **Augusta (Ga.). Science**, Sept. 13, 2002.

"Process of Care in Hispanic, Black and White VA Beneficiaries." Howard S. Gordon, MD; Michael L. Johnson, PhD; Carol M. Ashton, MD, MPH. **Houston. Medical Care**, Sept. 2002.

"Reporting the Recruitment Process in Clinical Trials: Who are These Patients and How Did They Get There?" Asefeh Heiat, MD, MPH. **Cleveland. Annals of Internal Medicine**, July 2, 2002.

"VA Community-Based Outpatient Clinics: Cost Performance Measures." Matthew L. Maciejewski, PhD; Michael K. Chapko, PhD; Ashley N. Hedeon, MD; John C. Fortney, PhD. **Puget Sound and Little Rock (JCF). Medical Care**, July 2002.

Cooperative Studies pharmacy center wins Carey Award

The Albuquerque Pharmacy Coordinating Center, which provides pharmaceutical services for clinical trials of VA's Cooperative Studies Program, received a Robert W. Carey Quality Award from VA for the second year in a row. The award recognizes VA programs that excel in leadership, strategic planning, management and other areas.

When a VA cooperative trial involves drugs or medical devices, the Albuquerque center provides input into the design of the study and is responsible for drug-related activities such as developing the drug handling protocol, negotiating with pharmaceutical companies, and packaging, distributing and accounting of drugs.

The Carey Award, presented annually since 1992, is named for the late director of the Philadelphia VA Regional Office and Insurance Center, who led his office in initiating a total-quality management approach to serving veterans and their families.

Thoracic Society, VA partner on Career Development initiative

The American Thoracic Society (ATS), dedicated to furthering respiratory and critical care medicine, recently named two VA investigators as the first recipients of its new Research Career Development Award. Established in partnership with VA's Medical Research Service, the program will provide \$20,000 per year for three years to each investigator, with VA providing the balance of salary support.

The recipients of the first grants are Rabih I. Bechara, MD, of the Atlanta VA Medical Center, and Pierre P. Massion, MD, of the Nashville VA Medical Center.

Bechara will focus on the role of TGF beta in ethanol-mediated susceptibility to acute lung injury. Massion will explore genetic markers of preinvasive squamous carcinoma of the lung.

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percent of dermatologist visits in the United States.

Scientists have only recently identified a class of compounds known as cathelicidins and beta defensins that play a key role in the immune response of the skin and other organs by killing bacteria, viruses and fungi. These antimicrobial compounds are peptides, groups of amino acids that link to form proteins. Last year, Gallo published a study in *Nature* showing that these peptides are important in protecting mice against certain bacteria.

The new study shows, for the first time, that a shortage of these peptides may account for human skin infections, such as those in dermatitis.

In the study, researchers analyzed skin samples from 6 healthy adults; 8 patients with atopic dermatitis; and 11 patients with psoriasis, another com-

mon inflammatory skin disease. The normal skin contained almost no antimicrobial peptides, as these compounds are made only as needed. The psoriatic skin showed high levels, as is typical for many inflammatory skin conditions. But the skin with dermatitis contained much lower levels, almost like the normal skin.

The study also showed that cathelicidins and beta-defensins work together to kill the bacteria *staphylococcus aureus*, a common culprit in dermatitis infections. According to Gallo, a drug containing these natural antimicrobial peptides would protect dermatitis sufferers not only from bacteria, but also from viruses and fungi—common problems for dermatitis patients. Current antibiotic creams work only against bacteria.

Gallo noted other potential advantages of a peptide-based cream over

existing treatments for inflammatory skin disease:

“It might be more potent and would act on the skin to help healing, so the damage in atopic dermatitis would repair more quickly,” he said. “And our body normally makes these peptides to fight infection, so there might be fewer side effects than with conventional antibiotics.”

He added that unlike conventional antibiotics, peptide-based antibiotics “have been around for tens of thousands of years, and still seem important to our body to fight infection.” As such, Gallo and his colleagues believe the peptides may be particularly useful as the basis of new drugs. The researchers caution, however, that the use of peptides in medical therapy would have to be watched carefully for signs of eventual resistance among pathogens. ■

Career milestones

William Bauman, MD, director of the Center for Medical Consequences of Spinal Cord Injury (SCI) at the Bronx (NY) VA Medical Center, received the Excellence Award from the American Paraplegia Society at the group's annual meeting last month in Las Vegas. Bauman's work focuses on using anabolic steroids and other drugs to treat the secondary disabilities of SCI.

Stacieann C. Yuhasz, PhD, was named editor of VA's *Journal of Rehabilitation Research and Development*. She is a former biophysics faculty member at Johns Hopkins School of Medicine, where she also served as managing editor of the journal *Proteins: Structure, Function and Genetics*.

Next R&D Hotline Call:

Nov. 18, 2003

12 – 12:50 pm (EST)

Dial (800) 767-1750, #17323

VA physician-researcher receives Novartis Award for Hypertension Research

Gerald F. DiBona, MD, chief of medical services at the Iowa City VA Medical Center and professor at the University of Iowa College of Medicine, received the Novartis Award for Hypertension Research on Sept. 26 at an American Heart Association meeting in Orlando. DiBona, who has conducted research for VA since 1969, shared the award with John Hall, PhD, of the University of Mississippi Medical Center.

The work of both researchers has challenged the long-held view that high blood pressure causes kidney disorders. DiBona's and Hall's findings suggest, rather, that increased nerve activity to the kidneys limits their ability to excrete salt and water, which results in hypertension.

DiBona, who is also an adjunct professor at Sweden's Karolinska Institute, won VA's Middleton Award in 1995. The award is VA's highest honor for biomedical investigators.

The Novartis Award for Hypertension Research is sponsored by Novartis Pharmaceuticals Corporation, and is presented each year at the American Heart Association's High Blood Pressure meeting. ■

Upcoming events

• **HSR&D Meeting**—The next national meeting of VA Health Services Research and Development is set for Feb. 12 – 14, 2003, in Washington, DC. The theme is, "Diverse Veteran Populations: Challenges and Opportunities." For details log onto www.hsr2003.org.

• **National VA Research Week**—The 2003 event will take place April 20 – 26. Local research offices will be receiving more details by mail within the next few months.

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